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ABSTRACT

Prereferral intervention is designed to reduce referrals for special education placement, by modifying teacher instruction or management of difficult-to-teach (DTT) pupils prior to formal referral. A 3-year project is described in which Mainstream Assistance Teams offer consultation services to teachers in elementary and middle schools. The consultation results in interventions that are prescriptive, student-directed, and designed to transfer to additional school settings. Step-by-step procedures in designing and implementing prereferral intervention involve: identifying the problem, observing classroom behavior, validating the behavior, setting the goal, planning the intervention, and conducting a teacher-student meeting to develop a contract. The intervention activity is then implemented, involving recording, charting, self-monitoring, and feedback. Self-monitoring steps are gradually phased out, and observations take place in the original classroom and a transfer classroom. A post-intervention meeting takes place in which teacher and consultant determine goal achievement. To evaluate effectiveness of the approach, observation data were gathered in Year 2 and 3 on 103 DTT students, from a large urban school district and rating scales were administered to their teachers. Results showed that the intervention reduced the frequency of most DTT students' problem behavior and caused teachers to become more positive toward these pupils. The DTT students were less likely to be referred to special education than similar students in control groups. (JDD)

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Prereferral Intervention through Teacher Consultation: Mainstream Assistance Teams

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Abstract

There is growing concern that too many children are being identified as handicapped. Contributing to this apparent problem is that classroom teachers are referring large numbers of difficult-to-teach students for psychological assessment and possible special education placement. The purpose of prereferral intervention is to reduce referrals by modifying teacher instruction or management of difficult-to-teach pupils prior to formal referral. This article describes Mainstream Assistance Teams, a teacher consultation approach to prereferral intervention, which has been developed over a 3-year period in a large urban school district. The consultative process as well as intervention-related procedures are described so that teachers and support staff may employ these activities in their own settings.

Prereferral Intervention through Teacher Consultation: Mainstream Assistance Teams

Prereferral intervention refers to a teacher's modification of instruction or classroom management to better accommodate a difficult-to-teach (DTT) pupil. Such modification is presumed to decrease the likelihood of referral for formal assessment and possible placement in special programs. There are at least four salient characteristics of prereferral intervention. First, it reflects the least restrictive doctrine set forth in PL 94-142, requiring educators to attempt to accommodate DTT students' instructional and social needs in the most "normal" setting possible. Second, and related, it is meant to be preventative. That is, it attempts to reduce the number of (a) inappropriate referrals and special program placements and (b) future student problems by strengthening the ability of general educators to intervene effectively with diverse groups of children. Third, it is often "brokered" by one or more special service personnel such as special educators who work indirectly with targeted pupils through consultation with the classroom teacher. Fourth, prereferral intervention represents immediate assistance to the pupil and teacher since support is provided as soon as the teacher contemplates referral.

Mainstream Assistance Teams

During the past 3 years, we have worked closely with a large urban school district to implement prereferral intervention in elementary and middle schools. In this "Mainstream Assistance Teams" (MAT) Project, funded with a grant from the Office of Special Education in the U.S. Department of Education, prereferral intervention is embedded within a larger process of

teacher consultation, known as Behavioral Consultation.

Behavioral Consultation

We chose Behavioral Consultation because prior studies suggest it is effective (Tombari & Davis, 1979) and straightforward. The Behavioral Consultation model requires a consultant to intervene indirectly with a DTT student through consultation with the student's teacher. Consultation is conducted during a series of four interrelated stages: problem identification, problem analysis, plan implementation, and problem evaluation. The consultant guides the teacher through these stages in a succession of structured meetings in which specific objectives must be accomplished before consultation can proceed to subsequent stages.

In "problem analysis," the second stage in the model's sequence, the consultant and teacher engage in collaborative problem solving. This entails development of classroom-based interventions, mutually determined by the teacher and consultant. In the first year of the MAT project, consultants were trained to use collaborative problem solving. Results were mixed. Whereas some interventions were planned and implemented carefully, many others were of weak design or conducted inconsistently (Fuchs & Fuchs, in press).

MAT Interventions

Prescriptive. During the next 2 years, we attempted to strengthen the design and implementation of the prereferral interventions by requiring use of teacher-student contracts and specific monitoring procedures. So, following Year 1 of the project, Peabody staff, rather than consultant-teacher teams, selected several interventions supported by research and developed instructions and materials to guide their use. In so doing, we sacrificed some consultant-teacher collaboration to help ensure accurate implementation of judiciously selected interventions.

Student-directed. These relatively prescriptive MAT interventions require DTT students to play an active, central role. After the first 2 days, when the classroom teacher implements all activity, students take over. They systematically monitor, record, and evaluate their own behavior and provide verbal feedback to themselves. This self-regulatory activity was adopted for two reasons. First, evidence suggests it helps reduce inappropriate classroom behavior (e.g., Hallahan, Lloyd, Kosiewicz, Kauffman, & Graves, 1979), while it seems to increase motivation to perform well (e.g., Borkowski & Kurtz, 1987). Second, since the student is responsible for conducting much of the intervention, teachers tend to view it as unobtrusive, which is to say, "do-able."

Designed to transfer to additional school settings. MAT interventions were developed not only to induce behavior change in an initial classroom, but also to facilitate its transfer to other classrooms. With this goal in mind, we borrowed an idea from Stokes and Baer (1977), called "sequential modification," and constructed interventions conducted in four phases. The first phase is relatively complex, but successive phases become more and more simple. The purpose of sequential modification is to reduce teacher and student intervention-related responsibilities so that the strategies become more feasible and can be applied easily in additional settings.

Following is a description of one MAT prereferral intervention and the Behavioral Consultation process in which it is embedded. This description is organized by "pre-treatment," "treatment," and "post-treatment" activity.

Pre-Intervention Activity

Meeting #1: Identifying the Problem

Using a prepared script of questions (see Fuchs, Fuchs, Gilman, Reeder, Bahr, Fernstrom, & Moore, in preparation), the school-based consultant asks

the teacher to describe his or her most DTT student. The consultant next encourages the teacher to specify as many as six behaviors that make this student difficult to teach. The teacher rates each problem from 1 to 5 in terms of severity, manageability, and tolerability, and then selects the one behavior which, if remedied, would do most to improve the "teachableness" of the student. Finally, the teacher and consultant formulate a concrete, observable description of this most salient behavior problem, which will be used (a) by the consultant to observe the DTT student before and after the intervention is implemented and (b) by the teacher to help the student understand the problem behavior.

Observing Classroom Behavior

Interval recording. Following Meeting #1, the consultant conducts 40-minute observations on 2 days in the project classroom. These observations are made to validate the seriousness of the problem behavior and establish a baseline of its frequency. The consultant uses an "interval recording" system. Each 1-minute interval is divided into six 10-second segments. Each 10-second interval is divided into 8 seconds for observing and 2 seconds for recording.

Observing the DTT student and peers. After observing for 8 seconds, the consultant records a plus sign ("+") if the problem behavior was observed or a minus sign ("-") if it was not observed. Thus, the consultant records six marks for each 1-minute interval. In addition to the DTT student, two randomly selected same-sex classmates are observed. The consultant observes the DTT student in the first minute, peer #1 in the second minute, back to the DTT student during the third minute, and peer #2 in the fourth minute. This rotation is continued for 40 minutes on each of the 2 days.

Computing frequencies. After the second day of observation, the

consultant computes the DTT student's frequency of problem behavior by taking the total number of plus signs for the two days and dividing it by the total number of plus and minus signs. This yields an initial or pre-intervention percentage of problem behavior. An identical procedure is followed for computing a combined pre-intervention percentage of the two peers' problem behavior.

Meeting #2: Validating the Behavior, Setting the Goal, and Planning the Intervention

In Meeting #2 the consultant reports the observation data to the classroom teacher. If the observations do not corroborate the teacher's estimation of the frequency, or seriousness, of the problem behavior, a new description is formulated and the consultant conducts two additional observations. If, however, the observations support the teacher's estimate, the teacher and consultant use the data to set a goal for behavior change. This goal is expressed in absolute terms (as a reduced percentage of DTT student's problem behavior) and in relative terms (as a smaller difference between the percentages of the DTT student's and peers' problem behavior).

During this second meeting, the consultant also explains that the intervention will include a teacher-student contract, special monitoring procedures, and the possibility of rewards to the student to encourage positive behavior change. These rewards can be of various sorts such as activities (e.g., free time), objects (e.g., stickers), or tokens to trade for backup reinforcers. Teachers are encouraged to permit students to choose their rewards to enhance their importance to the students.

Teacher-Student Talk: Agreeing on the Goal and Developing a Contract

After Meeting #2 the teacher meets with the student to identify and describe the problem behavior. The teacher might explain, for example, how it

interferes with other students' learning and is socially inappropriate. Or the teacher might discuss why it interferes with the student's own school performance and is nonadaptive. The teacher then describes a corresponding desirable behavior. For example, if the problem behavior is "fiddling with things during math instruction," the desirable behavior becomes "looking at the teacher during math without fiddling." Finally, the teacher expresses confidence in the student's capacity to demonstrate the desired behavior.

After agreeing on the nature of the problem and the more desirable behavior, the teacher and student develop a written contract. It specifies: (1) a daily goal expressed as a percentage of time the student will demonstrate the desired behavior, (2) a particular class time and activity during which the behavior will be monitored, (3) a reward the student will receive if the daily goal is met, and (4) dates on which the contract starts and ends. Finally, the teacher and student sign the contract.

Intervention Activity

Phase 1

In Phase 1 the student monitors his or her behavior using interval monitoring. Associated materials include a tape recorder, a cassette recording of a 40-minute sequence of beeps spaced at 2-minute intervals, and a monitoring sheet (see Part A of Figure 1).

Insert Figure 1 about here

Daily goal. Before the activity during which monitoring is to occur, the teacher reminds the student of the goal, which is expressed as a percentage of time the desired target behavior must be demonstrated. The teacher writes this goal at the top of the monitoring sheet. Using a green crayon, the

student draws a line on the chart in Part B of the monitoring sheet (see Figure 1) to indicate this goal.

Recording and charting. When the targeted class activity begins, the student plays the tape recording. At the end of the first 2-minute interval, signalled by the beep, the student asks him or herself: "Since I started the tape" (or, in subsequent intervals, "Since the last beep"), "did I behave as I was supposed to?" If the student can answer affirmatively for the entire interval, he or she marks a plus sign in the first rectangular space (#1) of the grid in Part A of the monitoring sheet. If, on the other hand, the student responds that the desired behavior was not demonstrated, a minus sign is recorded.

At the end of the monitoring period the student computes the percentage of intervals during which he or she had exhibited appropriate behavior by dividing the number of plus signs by the number of intervals during which monitoring took place. (If necessary, the teacher assists in this computation.) This yields a percentage of desired behavior. Then the student uses a green crayon to color the corresponding area of the chart in Part B of the monitoring sheet.

Global ratings. Coloring the chart helps the student determine whether the goal was met. The student assigns him or herself a global rating of: 4 (better than goal), 3 (met goal), 2 (needs some improvement), or 1 (needs big improvement). Using a green crayon, the student circles the corresponding rating and colors the appropriate number of levels on the chart in Part C of the monitoring sheet (see Figure 1).

The teacher reviews this rating with the student. If there is a difference of opinion as to whether the goal of the day was met, the teacher pursues a compromise by reviewing with the student the definitions of the

problem and desired behaviors or guides the student's recollection of positive and negative instances of desired behavior during the monitoring period. Once agreement on a compromise rating is reached, the teacher circles it at the bottom of Part C of the monitoring sheet (see Figure 1).

Self-talk question and answer. The student also is responsible for writing a self-talk question and answer, formulated with help from the teacher, in Part D of the monitoring sheet. The question and answer reflect the nature of the desired behavior defined for the student in the teacher-student meeting prior to Phase 1. As an example, the student's self-talk question might be, "Did I pay attention to the teacher in math class today?" If the student and teacher agreed on a global rating of 3, the student might answer, "Yes, I paid attention and learned about fractions." If the final global rating is 2, the student might answer, "No, I did not pay attention. I will do better tomorrow."

Reinforcement. The teacher is encouraged to dispense two types of reinforcement. The first is verbal and its message is tied directly to the final global rating. Following are examples of appropriate verbal reinforcement:

Rating of 4: "Great! Your behavior was excellent today!"

Rating of 3: "I'm happy to see good behavior today."

Rating of 2: "You're on the right track. Try harder tomorrow."

Rating of 1: "Keep working on your behavior, and do better tomorrow."

If teacher and student agree that the goal was met, the student also receives the reward specified in the teacher-student contract.

Fidelity of implementation. As indicated above, the teacher implements Phase 1 for the first 2 days before the student assumes the job of monitoring. Thus, the teacher becomes familiar with the process and capable of teaching it

to the student. A consultant observes the teacher on one of these first 2 days. Later, the consultant observes the student during one of the student's first 2 days of implementing the intervention. The consultant conducts these observations to verify that the intervention is being implemented correctly. The student uses the Phase 1 monitoring sheets for 5 days or until the daily goal is achieved three times, whichever comes first, before moving to Phase 2.

Phase 2, Phase 3, and Observations

Phase 2. In Phase 2 the student continues to play the recorded beeps and to question him or herself about the appropriateness of his or her behavior, but no longer records plus or minus signs. Thus, Part A of the monitoring sheet (see Figure 1) is eliminated from Phase 2 monitoring. Additionally, the student no longer charts the percentage of desired behavior, so Part B of the initial phase also is eliminated. However, the teacher still designates a goal, and the student and teacher continue to assign global ratings to the student's daily behavior. The student also continues to chart a global rating and employ a self-talk question and answer; the teacher still gives verbal reinforcement in accordance with the final rating and rewards the student when appropriate. The student uses the Phase 2 monitoring sheets for 5 days, or until the goal is met on 3 days, whichever comes first.

Phase 3. Phase 3 procedures are fewer still. The student no longer uses the taped beeps and does not chart a global rating on the monitoring sheet. The student simply notes the teacher's daily goal, self-monitors during the targeted classroom activity, and designates a global rating for the monitored behavior in Part C of the monitoring sheet (see Figure 2). The teacher still assigns a final global rating; the student writes the self-talk question and answer (see Part D of Figure 2); and the teacher gives the student verbal feedback and rewards when appropriate. As in prior phases, the student

remains in Phase 3 for 5 days, or until the goal is met on 3 days, whichever comes first.

Insert Figure 2 about here

Observations. At the end of Phase 3 the consultant conducts post-intervention observations. The consultant follows the same procedures employed during the pre-intervention observations. In Meeting #3, described below, these data are compared with pre-intervention observations to determine whether the intervention was effective.

Phase 4

Transfer classroom. The purposes of the fourth and final phase are (a) to continue the simplified Phase 3 version of the intervention in the first classroom and, concurrently, (b) to implement the same simplified version in a second, "transfer" classroom. The teacher and consultant select a transfer setting after considering three factors: First, the student must exhibit similar problem behavior in this transfer classroom; second, the transfer setting must represent an academic subject area (e.g., math or science); and last, the teacher of the transfer classroom must be willing to participate.

The teacher of the first classroom describes the student's problem behavior and corresponding desirable behavior to the transfer teacher. The first teacher also explains the daily goal; the relation between the observed percentage of desirable behavior and the four possible global ratings; and the connection between global ratings and verbal feedback and rewards.

Goal setting. The first teacher then discusses the transfer classroom with the DTT student. He or she identifies the transfer teacher and explains how the student will now monitor behavior in two classrooms. The student is

told the daily goal and that it will remain the same in the two classrooms for the duration of Phase 4. Most important, the first teacher makes clear that the student will continue to receive a reward only if the student and both teachers agree that the goal was met or exceeded in both classrooms.

Global ratings. For each day of Phase 4, the student completes two Phase 3 monitoring sheets, one for the first classroom and one for the transfer classroom. On each sheet the student makes note of the daily goal written by the first teacher and, at the end of the monitoring period, assigns a global rating. Before leaving the transfer class, the student and transfer teacher review the student's global rating and discuss any disagreements about whether the student met the goal. Once agreement is reached, the transfer teacher records a global rating on the monitoring sheet for the transfer class. Similarly, the first teacher reviews the student's global rating for behavior displayed in his or her classroom and assigns a rating on the monitoring sheet.

Reinforcement and reward. After the school day, the student and initial teacher meet to review the two monitoring sheets. Verbal feedback reflects both teacher ratings. For example, if the first teacher assigned a rating of 3 and the transfer teacher (Mr. Smith) a rating of 2, the first teacher might say, "You need to work harder to talk at the appropriate times in Mr. Smith's class, but you did very well in my class." In addition, if the daily goal were met in both the first and transfer classrooms, the student would receive a reward for the day. The student remains in Phase 4 for a minimum of 2 days.

Observations in the transfer classroom. To determine whether the MAT intervention transfered to additional school settings, project staff conducted several sets of observations in transfer classrooms. (See Fuchs, 1989, for more information about these observations.)

Post-Intervention Activity

Meeting #3

The primary purpose of Meeting #3 is for the first teacher and consultant to determine whether the goal set in Meeting #2 has been achieved. Regarding only data collected in the initial classroom, the teacher and consultant compare the percentage of problem behavior demonstrated by the DTT student and peers during pre-intervention observations to the percentage displayed during post-intervention observations (Phase 3). The difference is contrasted with the goal set in Meeting #2. If the goal has been met, or if it has not been achieved but consultant and teacher decide sufficient progress has been made, they agree to end consultation, and plan a slow fade of intervention procedures. The teacher, guided by the consultant, then reviews the six specific behavior problems identified in Meeting #1 and, as before, gives each of them a ranking from 1 to 5 with regard to severity, manageability, and tolerability.

If the teacher believes there has been insufficient progress, the teacher and consultant choose among four options: To continue consultation (1) with the same goal and same unmodified classroom intervention; (2) with a different goal and same unmodified intervention; (3) with the same goal and a modified intervention; or (4) with a different goal and a different intervention. During this meeting the consultant and teacher work out what the goal and intervention procedures will be for continued consultation, including another classroom visit by the consultant to determine fidelity of intervention implementation, another observation of the DTT student and peers, and a fourth and final meeting (see Fuchs et al., in preparation, for details).

Does the MAT Intervention Work?

During Years 2 and 3 of the MAT project, observation data were collected

on 103 DTT students, and rating scales and questionnaires were administered to their teachers. This information indicated the intervention dramatically reduced the frequency of most DTT students' problem behavior and caused a majority of teachers to become more positive toward these pupils. Moreover, the DTT students were significantly less likely to be referred to special education than similar students in control groups (Fuchs, 1989). However, an important caveat must be expressed. MAT teachers and consultants had the benefit of technical assistance and support from Peabody staff who were in project schools once or twice each week. Thus, we do not know whether the process will work without such assistance.

An important implication is that practitioners planning to implement these prereferral procedures should obtain pre- and post-intervention data to validate them for their settings. Another reason to collect evaluative data is that the MAT intervention was not, and never will be, universally effective; there will always be children for whom it is unsuccessful. Responsible mainstreaming requires teachers and building-based support staff to document the effects of prereferral intervention on each and every student participant.

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Figure Captions

Figure 1. Phase 1 monitoring sheet.

Figure 2. Phase 3 monitoring sheet.

STUDENT MONITORING SHEET: PHASE 1

STUDENT NAME: Leslie Jones GOAL: 70 % DATE: 10-21-88

PART A: RECORDING

+ #1	+ 2	− 3	+ 4	− 5
− 6	+ 7	+ 8	+ 9	− 10
− 11	− 12	− 13	− 14	− 15
+ 16	+ 17	+ 18	− 19	− 20

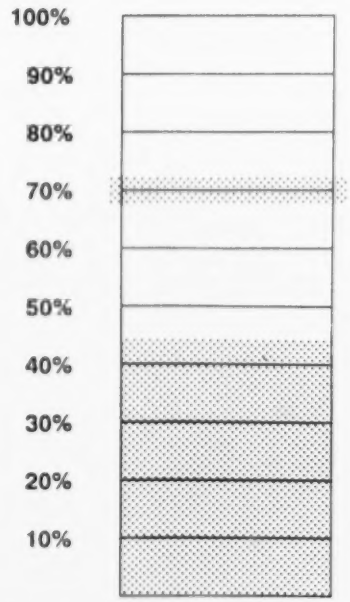
1. Number of plus (+) signs = 9

2. Total number of plus (+) and minus (-) signs = 20

3. Step 1 ÷ Step 2 (This is percentage of target behavior.) = 45%

PART B: CHARTING

Chart percentage of behavior



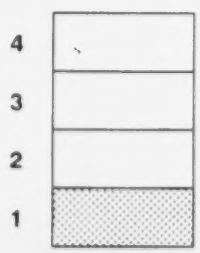
PART C: GLOBAL RATING

1 = Needs Big Improvement
2 = Needs Some Improvement
3 = Met Goal
4 = Better Than Goal

Student Rating (circle)

(1) 2 3 4

Chart



Teacher Rating (circle)

(1) 2 3 4

PART D: SELF TALK

Question: Did I pay attention to the teacher in math class today?

Answer: No, I did not pay attention. I will do better tomorrow.

STUDENT MONITORING SHEET: PHASE 3

STUDENT NAME: Leslie Jones GOAL: 70% DATE: 11-07-88

PART C: GLOBAL RATING

1 = Needs Big Improvement
2 = Needs Some Improvement
3 = Met Goal
4 = Better Than Goal

Student Rating (circle)

1 2 (3) 4

Teacher Rating (circle)

1 2 (3) 4

PART D: SELF TALK

Question: Did I pay attention to the teacher in math class today?

Answer: Yes, I paid attention and learned about fractions.